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10/020,538	11/30/2001	John R. Fredlund	83539DAN	9143

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EXAMINER	
MENBERU, BENIYAM	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/020,538	FREDLUND ET AL.	
	Examiner	Art Unit	
	Beniyam Menberu	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-13,15-18 and 24-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-13,15-18 and 24-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed September 5, 2007 have been fully considered but they are not persuasive.

Applicant stated in the Remarks on page 2, 3 that U.S. Patent No. 5901224 to Hecht does not disclose the addition of human readable information which is not obtrusive.

Examiner disagrees because Hecht '224 does disclose the addition of human readable information which is not obtrusive (see column 5, lines 57-64). In column 5, line 57 the data can be unobtrusive. Further in column 8, lines 28-35 and lines 41-47, Hecht '224 teaches that human readable watermark are "inconspicuous" which is a synonym for unobtrusive.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2-6, 8, 9, 10, 11, 13, 15, 16, 18, 24, 25, 26, 27, 28, 30, 31, 32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5530759 to Braudaway et al in view of U.S. Patent No. 5901224 to Hecht.

Regarding claim 8, Braudaway et al disclose a method of providing human visible information on an image (column 2, lines 6-11), the method comprising the steps of:

selecting a location on an image for human visible information (column 5, lines 6-23; The non-transparent locations determine the location where the pixel will be changed.);

analyzing pixels of the image at said location that will be used to create the human visible information to determine pixel values of said analyzed pixels (column 5, lines 5-24; Non-transparent watermark pixels areas are adjusted (brightened/darkened) . Column 5, lines 65-67;column 6, lines 1-9);

adjusting the pixel values of said analyzed pixels by a predetermined amount (column 5, lines 65-67; column 6, lines 1-6; The scale factor S' is predetermined amount.); and

printing the image with said human visible information thereon (column 4, lines 38-50), wherein said human visible information is presented with pixel values which are different from pixel values of an image area which surrounds said human visible information or from the pixel values that they have replaced (column 5, lines 6-24; The transparent area pixels will be different from the non-transparent pixel areas.). However Braudaway et al does not disclose wherein said selecting step comprises the step of

determining an optimum location for said human visible information based on a spatial analysis of said image, and wherein the human visible information is not obtrusive.

Hecht disclose wherein said selecting step comprises the step of determining an optimum location for said human visible information based on a spatial analysis of said image (column 6, lines 4-15, 32-48, 57-67; The "suitable area" correspond to the optimum location. The gray level analysis and "halftone/stipples/glyph" region analysis reads on spatial analysis. column 7, lines 57-67; column 8, lines 15-21;), and wherein the human visible information is not obtrusive (column 5, lines 57-67; column 8, lines 28-35 and lines 41-47`; "inconspicuous" which is a synonym for unobtrusive.)

Braudaway et al and Hecht are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the unobtrusive method of printing as disclosed by Hecht with the system of Braudaway et al to implement unobtrusive printing of human readable data.

The motivation to combine the reference is clear because the system of Hecht provides a method for adding data to original documents wherein the new document is very similar to the original one (column 1, lines 6-12).

Regarding claim 2, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Braudaway '759 discloses, wherein said adjusting step comprises increasing the pixel values of said analyzed pixels (col. 5, lines 98-14, pixel

values 0-127 are to be darkened and values from 129-255 are to be brightened; Brightening corresponds to increasing the pixel value.).

Regarding claim 3, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Braudaway '759 discloses wherein said adjusting step comprises decreasing the pixel values of said analyzed pixels (col. 5, lines 98-14, pixel values 0-127 are to be darkened and values from 129-255 are to be brightened; Darkening corresponds to decreasing of pixel value).

Regarding claim 4, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Braudaway '759 discloses wherein said adjusting step comprises changing the pixel value of at least one color channel of said analyzed pixels (column 5, lines 24-32; R, G, B color channels are linearized).

Regarding claim 5, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Braudaway '759 discloses wherein said adjusting step comprises adjusting the pixel values of said analyzed pixels by different amounts in each color channel (column 6, lines 47-67; column 7, lines 3-7; The adjusted Y' data is combination of R, G, B, color channels.).

Regarding claim 6, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Braudaway discloses wherein said adjusting step comprises adjusting the pixel values of said analyzed pixels by different amounts according to a value of an original pixel (column 6, lines 47-67; column 7, lines 3-7; The adjusted Y' data from original Y value is combination of R, G, B, color channels.).

Regarding claim 9, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Hecht discloses a method according to claim 8, wherein said optimum location of said image for said human visible information is at least one of an area without high frequency detail on said image, an area of repetitive detail in the image, and a dark portion area of the image (column 7, lines 47-67; In figure 5, 72a' contains glyph which is relatively dark area of image 70' and also repetitive area.).

Regarding claim 10, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Hecht discloses a method according to claim 8, wherein said optimum location of said image for said human visible information is at least an area where faces or flesh are not detected (column 8, lines 41-54; Figure 6, 7 show that the information is placed away from image area. Since face image can be located in image area the information thus placed is area where faces or flesh is not detected).

Regarding claim 11, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Braudaway discloses wherein said analyzing step comprises analyzing a portion of the image (column 5, lines 5-24; Non-transparent watermark pixels areas are adjusted (brightened/darkened) . Column 5, lines 65-67;column 6, lines 1-9; Thus the non-transparent portion of the image is analyzed.).

Regarding claim 13, Braudaway '759 in view of Hecht '224 teaches all the limitations of claim 8. Further Hecht '224 discloses wherein said human visible information is human readable and/or human detectable (column 8, lines 48-54).

Regarding claim 15, Braudaway et al disclose a system for providing human visible information on an image, the system comprising:

a computer device adapted to analyze pixels of an image that will be used create human visible information to determine pixel values of said analyzed pixels, said computer device being further adapted to adjust the analyzed pixel values of said pixels by a predetermined amount (column 4, lines 10-12, 30-37; column 5, lines 6-67; column 6, lines 1-16; column 5, lines 6-15, lines 33-67; column 6, lines 1-6); and

a printing device adapted to print the image with said human visible information thereon(column 4, lines 45-50), wherein said human visible information is printed with pixel values that differ from pixel values of an image area which surrounds the human visible information or from pixel values that they have replaced (column 5, lines 6-24; The transparent area pixels will be different from the non-transparent pixel areas.). However Braudaway et al does not disclose wherein said computer device is further adapted to determine an optimum location for said human visible information based on a spatial analysis of said image and that the human visible information is not obtrusive

Hecht discloses wherein said computer device is further adapted to determine an optimum location for said human visible information based on a spatial analysis of said image (column 6, lines 4-15, 32-48, 57-67; The "suitable area" correspond to the optimum location. The gray level analysis and "halftone/stipples/glyph" region analysis reads on spatial analysis. column 7, lines 57-67; column 8, lines 15-21;), and wherein the human visible information is not obtrusive (column 5, lines 57-67; column 8, lines 28-35 and lines 41-47`; "inconspicuous" which is a synonym for unobtrusive.).

Braudaway et al and Hecht are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the unobtrusive method of printing as disclosed by Hecht with the system of Braudaway et al to implement unobtrusive printing of human readable data.

The motivation to combine the reference is clear because the system of Hecht provides a method for adding data to original documents wherein the new document is very similar to the original one (column 1, lines 6-12).

Regarding claim 16, see rejection of claim 9 as shown above.

Regarding claim 18, see rejection of claim 13 as shown above.

Regarding claim 24, see rejection of claim 2 as shown above.

Regarding claim 25, see rejection of claim 3 as shown above.

Regarding claim 26, see rejection of claim 8 as shown above.

Regarding claim 27, see rejection of claim 9 as shown above.

Regarding claim 28, see rejection of claim 11 as shown above.

Regarding claim 30, see rejection of claim 13 as shown above.

Regarding claim 31, see rejection of claim 5 as shown above.

Regarding claim 32, see rejection of claim 6 as shown above.

Regarding claim 34, see rejection of claim 10 as shown above.

3. Claims 7 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braudaway et al in view of Hecht as applied to claims discussed above, and further in view of well-known Prior Art.

Regarding claim 7, Braudaway discloses (col. 5, lines 6-15, pixel values 0-127 are to be darkened and values from 129-255 are to be brightened) showing that the values of the analyzed pixels can be adjusted.

However, Braudaway fails to specifically disclose adjusting the pixel values of said analyzed pixels by less than 10% of full scale.

However, the examiner is taking an "Official Notice" that it is obvious from the above discussion for claim 8 that the analyzed pixel values can be adjusted by a desired amount of scale, and such modification would have been obvious within the level of an ordinary skilled in the art at the time of the invention was made to select less than 10% of the full scale without significantly deteriorating the image.

The motivation would be to produce changes in pixel values that are minimal to generate unobtrusive information in pixels.

Regarding claim 33, see rejection of claim 7 as shown above.

4. Claims 12, 17, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braudaway (U. S. Patent No. 5,530,759) in view of U.S. Patent No. 5901224 to Hecht further in view of Hatakenaka et al (U.S. Patent No. 6,563,542).

Regarding claim 12, Braudaway does not teach, wherein said human visible information is at least one of a number, a URL, a bar code, APS IX frame titles, text graphics, a password, a company logo and a crop box on front of the print.

Hatakenaka discloses in Figs. 6A, 6B, 6C, 6D and 7 that the human visible information can at least be one of a number, a URL, a bar code, APS IX frame titles,

text graphics, a password, a company logo and a crop box on front of the print (see Figure 6a-d, 7; The date on Figure 7 is a number. Column 8, lines 1-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include numbers for Braudaway's watermark information.

The motivation would be for identification purpose (col. 2, line 47).

Regarding claim 17, see rejection of claim 12 as shown above.

Regarding claim 29, see rejection of claim 12 as shown above.

Other Prior Art Cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6201879 to Bender et al disclose method for hiding information in images.

U.S. Patent No. 5765176 to Bloomberg discloses document system.

U.S. Patent No. 7253917 to Umeda et al disclose image processor.

U.S. Patent Application Publication No. US 2004/0165219 A1 to Chen discloses glyph processing system.

U.S. Patent Application Publication No. US 2007/0177759 A1 to Eschbach et al disclose watermarking system.

U.S. Patent Application Publication No. US 2004/0145660 A1 to Kusaka discloses imaging system.

Conclusion

6. **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner
Beniyam Menberu
BM
11/13/2007

AUNG S. MOE
SUPERVISORY PATENT EXAMINER
11/09/07